

CLAIM AMENDMENTS

Claim 1. (Currently Amended) A microfluidic device formed from a substrate, said device comprising a plurality of individual units in said substrate, each individual unit comprising 4 assay units subunits, where the 4 assay units subunits have 4-fold symmetry, said units further characterized by:

a common ~~reagent source~~ supply reservoir containing a target compound for said 4 assay units subunits; and

each subunit comprising:

a compound reservoir containing a test compound;

a delivery channel connecting with both the common supply reservoir and the compound reservoir such that the test compound and the target compound form an assay mixture when such test compound and target compound are transported through the delivery channel;

~~two waste sources for each assay unit, each waste source shared by two assay units;~~

each assay unit having a delivery channel and an assay channel connecting a buffer reservoir and a waste reservoir and crossing the delivery channel to form at a cross-intersection for injecting an the assay mixture from said the delivery channel into said the assay channel, the assay mixture being transported along the assay channel toward the waste reservoir for detection; and

~~a plurality of reservoirs for providing buffer, receiving waste and, as required, providing additional reagents.~~

Claim 2. (Canceled)

Claim 3. (Currently Amended) A microfluidic device according to Claim 1, wherein said common ~~reagent source~~ supply reservoir comprises a PCR reactor, a bead reservoir and buffer reservoir.

Claim 4. (Original) A microfluidic device according to Claim 1, wherein said substrate is plastic.

Claim 5. (Currently Amended) A microfluidic device according to Claim 1, having at least about 96 assay ~~units~~ channels.

Claim 6. (Canceled)

Claim 7. (Original) A microfluidic device according to Claim 1, wherein said cross-intersection is a double-T intersection.

Claim 8. (Currently Amended) A microfluidic device formed from a substrate, said device comprising a plurality of individual units in said substrate, each unit comprising 8 single assay units, where the 8 assay units have 8-fold symmetry, said units further characterized by:

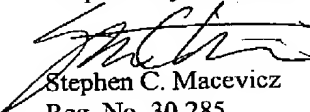
- a common reagent source supply reservoir containing a target compound for said 8 assay units;
- each assay unit comprising:
 - a compound reservoir containing a test compound;
 - a delivery channel in fluid communication with both said common supply reservoir and said compound reservoir, such that a test compound and a target compound form an assay mixture when such test compound and target compound are transported through the delivery channel;
 - ~~two waste sources for each assay unit, each waste source shared by two assay units;~~
 - ~~each assay unit having a delivery channel and an assay channel~~ fluidly connecting a buffer reservoir and a waste reservoir and crossing the delivery channel to form -at a cross-
 - intersection for injecting an-the assay mixture from-said-the delivery channel into-said-the assay channel, the assay mixture being transported along the assay channel toward the waste reservoir for detection; and
 - ~~a plurality of reservoirs for providing buffer, receiving waste, and, as required, providing additional reagents;~~
 - electrodes associated with a plurality of reservoirs operatively connected to a computer.

Claim 9. (Original) A microfluidic device according to Claim 8, wherein said delivery channel and said assay channel differ in at least a portion of said channels in cross-section.

Claim 10. (Currently Amended) A microfluidic device according to Claim 8, wherein ~~said assay units of said microfluidic device are spatially organized to conform with a 96 or 384~~
microtiter well plate comprising 96 assay channels.

If any additional time extensions are required, such time extensions are hereby requested.
If any additional fees not submitted with this response are required, please take such fees from
deposit account 50-2266.

Respectfully submitted,



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